MANAGEMENT INFORMATION SERVICE

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INTERMUNICIPAL ARRANGEMENTS FOR SEWERAGE SERVICE

How can local governments best solve the problem of providing sewerage service to an entire urban area?

Both large and small cities in all parts of the country are facing the problems of putting a stop to the pollution of rivers and streams and providing sewage works. The problem is particularly acute in fringe areas which have grown rapidly in population. Many cities are being forced by states to discontinue dumping raw sewage in rivers and are building interceptor lines and sewage disposal plants, but comparatively few cities have made long-range plans to meet the problem on an area-wide basis.

The lack of sewerage facilities in many areas has led to health hazards, substantial destruction of property values, loss of potential new industries, inequitable distribution of cost, and greater over-all cost to taxpayers. In Davidson County, Tenn., for example, it is estimated that 153,000 persons in the county, out of a total population of 322,000 including Nashville, use private septic tanks or pit privies. Likewise, in St. Louis County, Mo., 132,000 persons who live in urban areas outside the city of St. Louis are without sewers or have inadequate sewers, and nearly one-half of these persons are served by septic tanks. It was estimated that the average cost of a single-family septic tank and disposal system in 1947 was $175 and that the average life of such an installation was about 10 years.

Thus the lack of an area-wide sewerage system often is an economic detriment to the entire area as well as a detriment in terms of community health. New industries often seek undeveloped ground in large tracts which generally are available only outside the city, and if sewerage service is not available such industries often find it necessary to choose another city.

A sanitary sewage system, including treatment facilities, is extremely costly. Many communities acting by themselves are unable to cope with the problem because of inadequate financial resources, while other cities are unable to prevent pollution because of limited jurisdiction. The cost of ending the present practice of dumping raw sewage into a river involves more than simply providing interceptor lines and a treatment plant to accommodate the needs of the area.

Any plans made for the improvement of sewage disposal facilities in the central city must include provisions for ultimate service not only to the present nonusers over the entire urban area but also to the residential, commercial, and industrial users who may come into the area in the future. It follows that sewers built in fringe areas or nearby communities should be built in accordance with community-wide requirements in relation to the watershed area.

The goal is to provide adequate sewerage facilities in a given urban area or in a given watershed area. The types of treatment units usually required for small communities are relatively much more expensive than the types of units adaptable to the

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larger plants employing competent operation. In other words, one plant costs less, serves more people, gives better treatment, and is more economical to operate than several separate plants.

Several methods are used to provide for the collection, treatment, and disposal of sewage in urban areas, including satellite cities and unincorporated fringe areas outside the central city. The most common methods are: (1) extension of the boundaries of the central city to include the entire urban area, (2) provision by the central city of sewerage service to areas outside the city limits, (3) joint agreements between two or more local governments for sewage treatment and disposal, (4) a county sewerage system administered by the county government, (5) a single metropolitan sewer district, and (6) independent suburban utility districts.

The method used in any given urban area varies according to the complexity of the problem, state laws, available methods of financing, and other considerations. Cities in some areas use two or more methods. One city, for example, may extend its boundaries as a partial solution and also take steps either to provide sewerage service to outside areas or to enter into an agreement with the county or with other cities for the construction and operation of a sewage treatment plant.

The information presented in this report is intended to guide municipal officials in arriving at a sound solution of area-wide sewerage problems. Steps for officials to consider are:

1. The sewerage problem (collection, treatment, and disposal) should be approached on an area-wide basis and from a long-range point of view.

2. The best solution in many areas is to extend the boundaries of the central city to include unincorporated fringe areas. Where feasible, this is the most effective and economical way to provide sewerage and other services to all the people.

3. Cities that extend sanitary sewers to areas outside the city should collect service charges to cover costs and consider providing such service on condition that customers agree to annexation when such a step can be taken (see MIS Report No. 105 on policy on sewer extensions).

4. Where annexation is not feasible, the central or largest city in the area should consider (1) providing sewerage service to fringe areas, or (2) entering into an agreement with other cities for joint construction and operation, or (3) turning over to the county the job of providing interceptor sewers and treatment plants in highly urbanized counties where there are many cities. Fringe areas in any case should expect to pay their fair share of the cost of interceptor sewers and treatment plant.

5. The creation of an independent suburban sewer district or metropolitan sewer district should be considered only if there is no other feasible way to provide sewerage service efficiently and economically to fringe areas and to a number of cities and towns.

6. Two or more local governments in the same watershed area should consider joint construction and operation of interceptor sewers and treatment plants to avoid construction of more plants than are needed.

Other methods of control of the sewerage problem in fringe areas include supervision over private sewer installations by the city or county health unit, adoption of city and county subdivision regulations which require installation of facilities for water supply and sewage disposal before plats are approved, setting up minimum standards for the use of ground water supplies, adoption of regulations governing the

extension of water and sewer lines inside and outside the city limits, state health department control over water and sanitary facilities in unincorporated areas, and federal government requirements for water supply and sewage disposal as a condition for guaranteeing loans for buying homes.

Annexation of Fringe Areas

The best way for many cities to solve the problem of providing sewerage service is to extend their boundaries to include unincorporated fringe areas. This method not only provides for an integrated sewer system for the entire area but also provides a solution to metropolitan fire, police, park, and other problems. This method also makes it possible for the city to finance the extension of sewers from general revenues, service charges, and special assessments. Finally, the extension of such service by means of annexation gives the people served a voice in their government.

Annexation as a solution to providing sewerage and other urban services has been used extensively in recent years, notably by cities in California and Texas, but also by many other cities in a number of states (see the 1952 Municipal Year Book, pp.31-42). The need for sewerage service generally is the most compelling reason prompting the fringe area to annex (and/or the city wanting to annex). Among the larger cities that have made extensive annexations in recent years are Austin, Dallas, Fort Worth, and Houston, Texas; Atlanta, Ga.; Albuquerque, N. M.; Memphis, Tenn.; and Kansas City, Mo. (for complete listing see the Municipal Year Books for 1946 to 1952 inclusive).

Central City Provides Service Outside City Limits

One of the most widely used methods of providing for sewage disposal for an urban area is for the central city to extend its system outside the city and permit individuals or governmental units outside the city to make connections to it. This usually is done by a contract which sets forth conditions as to payment, type of service to be rendered, and special obligations. Cities have made such contracts or agreements with other cities, the county, industries outside the city limits, individual residences outside the city, special districts, townships, and other units of local government, and private subdivisions.

This arrangement permits the setting up of a single integrated sewer system, but it tends to postpone the solution of other urban problems and results in suburban users of the system having no voice in governing the agency which provides the service. Obviously the central city must charge for the privilege of using city sewers, in addition to the original connection fee, and this charge should cover overhead and other costs including a portion of the cost of building interceptor sewers and treatment plant. In practice the central city sometimes finds it difficult to collect the full cost of the service from the smaller fringe cities.

Statement of Policy. The city council should adopt a statement of policy, in the form of a resolution or ordinance, covering all contracts for outside connections to the sewer system. Such a statement should contain most of the following material:

1. A statement that connections to the city sewer system will be made only in the interest of the health, welfare, and safety of the people in the city. Connections will be made only if the city's sewage disposal system is adequate to meet all requirements and if plans and specifications of the connecting system conform to city regulations.

2. The chief administrative officer should be authorized to enter into contracts with individual property owners in accordance with the policies established by the council. The council should ratify all contracts with large private users and with governmental units.

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3. The council reserves to itself the right to set rates to be charged for such services and the power to change rates at its own discretion upon due notice and hearing.

4. Plans and specifications for the connecting systems should be reviewed by the city to determine that all design features conform to city regulations. The city should inspect construction to check conformance.

5. The city should reserve the right, after due notice and hearing to terminate any contracts when it determines that the best interests of the city are not being served. The city should be able to terminate contracts immediately for nonpayment of charges.

6. The city should retain complete control over the connecting system and have the privilege of permitting additional users to connect to the system; such portions of the connecting line as designated by the public works director must become the property of the city for operation and maintenance.

7. All construction, engineering, inspection, and incidental costs incurred in constructing the connection should be borne by the grantee. The grantee should also pay all subsequent maintenance and repair costs.

8. The city may adopt a policy of reimbursing an original grantee as new connections are made to a line serving his property. In Richmond, Va., for example, the original grantee pays for all costs of sewer extension, and subsequent property owners connecting to the system pay a flat $100 fee which is reimbursed to the original grantee. The grantee cannot be reimbursed, however, more than his original charge less $100 (see MIS Report No. 105).

9. Any requirements referring to specific users should be included in detail. For example, it may be necessary to require pretreatment of certain industrial wastes, to limit the number of connections for a commercial establishment, or to set a limit on the amount of wastes which a connecting governmental unit may discharge into the city's system. Special rate schedules may be established for industrial, commercial, and residential users. When another governmental unit contracts for disposal of its sewage, that unit itself may be made responsible for collection and payment of charges.

10. Finally, a form of contract may be included in the statement of policy. Such a contract would refer to the statement of policy, to the plans and specifications for the connection, and to any other pertinent data. The services to be performed, the charges, method of payment, the area to be served, amount of sewage to be transported, and peak load limitations should be included. Special reservations and conditions pertinent to the contract may be necessary in individual cases. Other information on ordinances can be obtained from "Municipal Sewer Ordinances" (Federation of Sewage & Industrial Wastes Associations, 325 Illinois Building, Champaign, Ill. $1.).

Typical Contracts. The policies and individual contracts of a number of cities for connection to the city sewerage system, as summarized briefly below, illustrate the types of agreements which may be entered into and the methods of assessing charges.

Toledo has contracted for sewage treatment and disposal for suburban Rossford, Ohio. Rossford is building a collection system, pumping station, and force main to the Toledo system. All the work is being done by Rossford according to plans approved by Toledo. Rossford will pay a connection charge of $35 per acre drained. In addition, Rossford will pay for the pumping and treatment of infiltrated ground water. Toledo will collect a sewer service charge from individual users in Rossford, and the agreement reserves to Toledo the right of determining service charges at its own discretion.

Cleveland has a contract with University Heights for the treatment and disposal of sewage. The charges are based upon water consumption and call for quarterly payments at the rate of 44 cents per thousand cubic feet of water delivered to University Heights with a 3 per cent discount for prompt payment. The agreement is so drawn that Cleveland can bill either the city or the individual water user in University Heights. In either case University Heights is responsible for payment. If billing is done by Cleveland the charge is based upon a rate of 46 cents per thousand cubic feet of water. In the event of nonpayment the city of Cleveland can shut off the water supply of any delinquent accounts.

Cincinnati has contracted with several nearby municipalities and private subdivisions for the disposal of their sewage through the Cincinnati sewerage system and disposal plant. The city manager is authorized to make contracts subject to rules established by the city council. Charges to outlying communities are the same as those for users of the sewerage system within the city and are based on water consumption with a minimum charge of 72 cents for a 5/8-inch meter. Individual communities collect the charges and pay Cincinnati. In cases where it is impractical to measure the amount of water used the city manager can determine the charge. The ordinance specifies thatfailure to pay fees constitutes a right of the city to shut off the water supply.

Colorado Springs, Colo., has two types of contracts in effect to provide sewage service outside the city limits. One form of contract provides for the treatment by the city of sewage delivered to the sewage treatment plant by the other party to the contract and is in effect with five parties: an institution, a hotel, a housing project, a sanitary district, and a federal air base. The second type of contract provides for the transmission to the treatment plant and treatment by the city of sewage delivered to some point of the city collection system by the other party to the contract and is in effect with the town of Manitou, a residential development company, a sanitary district, and several private residential and industrial connections. The disposal costs for both types of contracts are based on the prorated volume of sewage delivered to the plant.

All of the Colorado Springs contracts have been made under terms set forth in a city ordinance passed in 1937. This ordinance provides a number of conditions which must be included in the contract, and it provides that no connection can be made except when the city council determines that the health of the citizens of Colorado Springs is endangered, that the sewage disposal system of the city is adequate for the additional load, and that the size and type of connection and materials used conform to city regulations. The application for a contract must include a plan showing the size and type of connections and the number of persons and the types of property that will use the connection.

Rochester, N. Y., has contracts with Irondequoit and Brighton for the disposal of their sewage. The two communities pay an annual charge for the service based as follows: $1 for each vacant lot as a standby charge, $3.50 for each family unit as a disposal charge, and $1 for each toilet room in a commercial building. Schools, churches, and municipal buildings are exempt from separate disposal charges. Industrial rates are fixed by the Rochester public works director upon application.

Charlottesville, Va., has a standing policy for connections with the city sewerage system for owners of property outside the city limits. Each property owner desiring service signs an agreement with the city which specifies that the owner will pay $3 per quarter in advance for sewer service and that he will construct and maintain a private sewer in accordance with city specifications. Construction and maintenance are at the owner's expense. Storm water is specifically excluded. The property owner gives the city a lien on the property for all charges, costs, attorney fees, and collection fees in case of delinquency.

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Richmond, Va., has a comprehensive policy on supplying water and sewer services to areas outside the city as set forth in a resolution adopted by the city council in 1951. Such services may be extended to the county or to any other public authority and to individual property owners when the city manager has determined it is practical to do so. Commercial and industrial extensions are approved by the council upon recommendation by the city manager. Extensions may be made only into areas which are within the limits of the metropolitan area as determined by the city planning commission. Outside service charges are fixed by the council. The total cost of constructing the extension is borne by the original applicant who is reimbursed by connection charges to subsequent customers.

Eugene, Ore., is building a sewage disposal plant at a cost of $1,100,000. The city of Eugene will own and operate the plant and will contract with other cities and water districts for sewage disposal. Prior to the construction of the plant the cities of Eugene and Springfield undertook a joint survey to determine the most economical method of collection, treatment, and disposal of domestic sewage and industrial wastes for the two cities and for 43,000 acres in the area immediately surrounding the two cities. The system is being financed through sewage service charges based on water consumption and is collected with water bills. Water districts outside the city pay a proportionate share of the sewer service charge based upon the metered water used.

Joint Agreements for Sewage Disposal

The best method of providing complete sewerage service in many areas is by means of a joint agreement or contract between two or more governments. A total of 227 cities in 39 states in 1949 were providing sewerage service for 739 other government units, according to the United States Public Health Service. This plan avoids the creation of a separate district and enables the governing bodies of the governments concerned to control the service and cost.

Intermunicipal agreements generally apply only to the construction and maintenance of the interceptor sewers and a treatment plant. In Rhode Island, however, the towns of Lincoln, Cumberland, and East Providence and the cities of Pawtucket, and Central Falls have a joint sewer system and treatment plant under construction which will go into operation this year. In Arlington and Fairfax Counties, Va., a study was recently completed on a possible joint arrangement for a sewage treatment plant.

Intermunicipal arrangements for joint treatment and disposal facilities must be based on an engineering study of local conditions. The Division of Water Pollution Control of the United States Public Health Service definitely encourages the construction and operation of joint treatment facilities wherever such works are feasible and beneficial to all of the communities concerned.

Joint agreements for the disposal of sewage differ considerably as to details of operation, services to be performed, and allocation of costs. Agreements may be made between large cities, between a large central city and its smaller satellites, between small and relatively isolated cities, between cities in different states, and between the city and other local governments.

Suggested Outline for Joint Agreement. Review of a number of agreements indicates that while the details may differ the content and form are somewhat similar. If a joint arrangement is to work to the benefit of all the parties and if lawsuits and disagreements are to be minimized, the agreement must be carefully drawn and should contain all of the items agreed upon. The following outline should be useful in drawing up an agreement even though the details will depend upon state laws and local conditions.

1. Purpose of the Agreement. This section should name the parties to the agreement and specify that the agreement is being entered into in the interest of the public health, safety, and welfare of the communities concerned. Reference should be made to the state laws and city charters authorizing the agreement.

2. Actual Services to be Performed. The actual services which are to be performed for the contracting cities should be set forth in detail. The agreement may provide, for example, that the communities will jointly construct and operate a disposal plant but that the sewerage systems of each of the communities shall be separate. It may be feasible for the communities to build and maintain jointly an outfall or trunkline sewer to the disposal plant. In either case a definite statement as to responsibility for construction, maintenance, and operation of the disposal plant, of outfall lines leading to it, and of the sewerage systems should be included.

3. Adoption of Plans. Detailed plans for the construction of the sewage disposal plant need not be included in the agreement but reference should be made to such plans. A copy of the plans may be attached to the agreement and made a part of it by reference. The plans should be carefully identified so that reference in the agreement can be made to a particular set of plans and to that set only.

4. Construction Costs. The proportionate share of each community in the actual cost of construction of the plant and appurtenances is an important part of the agreement. This proportion usually is best determined by the consulting firm designing the plant and should take into account present volume and kinds of wastes, typography, present and future population and present and potential industries in the area. It may be possible to divide costs in the same proportion as the percentage of total wastes delivered to the plant by each community. The cost of constructing design features which benefit only one of the parties to the agreement should be borne solely by that party. Such features include pumping stations, force mains, and allowances for a large volume of industrial sewage.

5. Operation Costs. The agreement should contain a description of the way in which operations and maintenance of the plant will be financed. This may be done by metering the sewage and prorating operation costs in proportion to the amount of sewage waste contributed or by prorating costs on the basis of the number of connections to the system with different weights being given to commercial, industrial, and residential connections. Metering sewage is the better and easier method if the sewage of the parties can be separately metered.

This section also should prescribe how often participants will make payments for operating costs (monthly, quarterly, semi-annually, or annually) and the basis for payments (a budget or actual expenditures of the last financial period). Provision should be made for an annual independent audit of the accounts and records of the plant, for an annual or quarterly report outlining plant operations and expenses, and for inspection of the plant, its operations, and records by the participants.

6. Organization and Administration. This section should set forth the relations between the plant and each of the participants. One method is for the participants to select representatives to an operating committee which serves as a policy-making body for the plant, selects a full-time superintendent, and oversees the operations. Under another plan one participant may control the operation and maintenance of the plant and bill other participants for the service. A third method is for the governing bodies of the individual participants to select a superintendent directly and serve collectively as a policymaking body for the control and operation of the plant.

7. Limitations. This section should spell out all of the limitations imposed by the agreement. It may be necessary, due to topographical conditions or other difficulties, to limit the number and type of connections which may be made by each

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municipality to the system. It may be necessary to provide for a maximum number of gallons-per-day flow. Limitations in the design of the plant may make it necessary for municipalities to require pretreatment of industrial wastes before accepting for disposal. The participants should have some voice in the major extensions made to the sewerage systems of the participants, including approval of plans. The operating committee also should have control of connections to the system from any areas outside the limits of the participants. It may be necessary to include a statement to the effect that effective measures will be taken by the participants to insure that no ground water or storm water infiltrates or is connected to the sanitary system.

8. Term of Agreement. The agreement should state how long it will be in force and under what circumstances participants may withdraw. The method of disposal of jointly-owned property should be outlined in case of termination of the agreement.

9. Amendment of the Agreement. The agreement should include a clause providing for amendment. Such a clause should include the method of ratification, effective date, and form of all amendments to the original agreement.

10. Authority for Signature. The agreement should contain references to the ordinances, referenda, or state law authorizing the city council or its official representative to enter into this specific agreement. Such reference should include date of passage, the title, and any special reservations made by the act. Finally, the agreement must be signed, certified by the appropriate official of each party, and published as prescribed by state law or local charter.

Summary of Typical Agreements. Some agreements in effect are summarized briefly to illustrate how the cost of sewage disposal can be reduced through cooperation between various types of local governments:

1. Between More Than Two Cities. In New Jersey a so-called "joint meeting" was made possible by a legislative act in 1910. The act provided that two or more municipalities could jointly provide, maintain, and operate a sewerage system and authorize the making of a joint contract. Cities that have taken advantage of the act include Plainfield, North Plainfield, Dunellen, East Orange, Newark, West Orange, Irvington, Maplewood, South Orange, Milburn, Hillsboro, Roselle Park, Union, New Brunswick, and several others.

A typical agreement is the one between Plainfield, North Plainfield, and Dunellen. The agreement made in 1913 provides for the joint maintenance and operation of a sewerage system and for the construction, maintenance, and operation of a sewerage system and of the sewage disposal plant. The agreement gives the specifications of the system and of the plant in detail. General policies for the operation and maintenance of the plant and the system are established in a "joint meeting" of the legislative bodies of the three cities. Each community has one vote and a majority of each council determines each municipality's vote. Under the state law authorizing the agreement any city contributing 25 per cent or more of the total cost of construction and operation has a veto power on any issue. The plant serving these three cities is operated by a supervising engineer under the direction of an operating committee composed of one representative from each of the three communities.

The original construction costs and capital improvements to the system were apportioned in the original agreement as 68 per cent for Plainfield, 25 per cent for North Plainfield, and 7 per cent for Dunellen. The sewage flow from each of the three communities is metered, and operation and maintenance costs are prorated in proportion to the amount of the sewage delivered to the plant by each of the communities. Each community is responsible for the maintenance and operation of the sewerage system within its own community and for connections to the outfall sewers. New connections to the outfall sewer, however, must be approved by the operating committee.

2. Between Two Small Cities. Chisago City (703) and Lindstrom (729), Minn., have built a joint sewage disposal plant. The cities, located in an area of lakes, are three miles apart with the plant midway between. Each city built its own sewerage system and an outfall line to the sewage disposal plant. Lindstrom built the plant with the cost of construction split equally, except that Chisago City paid $6,000 extra for increased costs due to terrain. A five-member commission operates the plant; two members are appointed by each city and the fifth is appointed mutually. Present members of the commission are the mayors and clerks of both cities and a health officer who lives in one city and maintains an office in the other. The plant and sewerage systems were financed by general obligation bond issues in both cities. Operating costs are divided equally between the two cities and are financed by sewer service charges.

San Bruno and South San Francisco, Calif., jointly constructed a sewage disposal plant with costs apportioned between the two cities on the basis of sewage load and flow. Sewage is collected through the trunk lines from both cities and discharged into a lift station where it is pumped to a plant through the main outfall line. The plant superintendent is appointed by the city managers of both cities under terms of the joint agreement. The agreement provides that both cities will control all operations, and the accounting system has been set up to reflect accurately the respective costs of operation. Both cities finance the cost by sewer service charges against individual property owners.

3. Between Central City and Other Cities and Businesses. Los Angeles has agreed with several other cities, sanitary districts, and private industries to construct and operate a sewage disposal plant which such cities and agencies can use. The cities to be served include Alhambra, Beverly Hills, Burbank, Culver City, El Segundo, Glendale, Santa Monica, South Pasadena, Universal City, and Vernon. Other agencies to be served include several sanitary districts and aircraft and oil companies, all of which were required by a court decision in 1946 to discontinue the discharge of sewage into the bay.

The Los Angeles plant, now nearing completion, will cost $43,000,000, and costs will be prorated on the percentage of treatment capacity which each unit contributes. State aid was available for construction of the plant and represented about one-half of the construction costs. The plant will be operated by the city of Los Angeles, and costs of operation, maintenance, and repair to trunk line sewers and to the plant will be prorated to the users on the volume of sewage each unit contributes.

4. Between a City and a Sanitary District. Tucson, Ariz., has built a sewage treatment plant to serve both the city and a sanitary district which covers part of the fringe area. Each agency is responsible for the maintenance of all sewage lines within its area except for the city's main outfall lines which run through district territory. The district pays the city its proportionate share of operation and maintenance costs of the sewage treatment plant, exclusive of depreciation and debt retirement. All connections in the city and the district must conform to city standards. If the city annexes a portion of the sanitary district, the lines will be maintained by the city and the annexed area will be released from financial obligations to the district except for bonded indebtedness.

5. Between a City and a University. The borough and township of Princeton, N. J., and Princeton University have had an agreement since 1930 to maintain and operate a sewage disposal plant serving all three parties. The plant is owned by the borough but the other parties have an equity in the plant. Each party constructed its own sewerage system, but trunklines connecting the individual systems with the plant were built by the borough. According to the agreement all charges for capital improvements, interest, bond amortization, operation, and maintenance are shared by the three parties, and the percentage each party pays is related to water consumption.

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Actual percentage payments are reviewed every three years to determine if they still reflect benefits. The plant is operated by a permanent committee made up of the chairmen of the sewer committees of the borough and township councils and the assistant to the controller of the university.

6. Between Cities in Different States. Bristol, Tenn., and Bristol, Va., each with a population of approximately 16,000, cooperated in the joint construction of interceptor sewer lines and a sewage treatment plant in 1951. The cost of construction was $4,000,000, each city paying one-half of this amount by issuing 30-year revenue bonds. Sewer service charges are based upon the amount of water used.

The two cities worked together to obtain necessary legislation from the two state legislatures. The intercepting sewers on each side of the state line are maintained by the respective cities, but the operation and maintenance of the disposal plant and pumping stations are controlled by Bristol, Tenn. The annual operating budget is subject to approval by the city councils of both cities.

7. Reciprocal Agreements. These agreements are used when adjacent cities and special districts trade or exchange sewerage service because topographical conditions make it costly for an individual city to treat all of its own sewage. Cities with such agreements include Dearborn and Detroit, Mich.; Cleveland, Lakewood, and Euclid, Ohio; Baltimore and the Baltimore County Metropolitan Sewer District; Washington,D.C. and the Washington Suburban Sanitary District; Camden and Pensauken, N. J.; Los Angeles, Calif.; and Rochester, N. Y.

Dearborn, Mich., in 1932 agreed to treat and dispose of 45,000,000 gallons of Detroit sewage daily with Detroit's paying $36,000 a year towards the capital cost of the disposal plant and $13.80 per million gallons of sewage treated. Dearborn in turn agreed to give Detroit a right-of-way for two Detroit sewers that go through Dearborn. Since the expiration of the last contract in 1947 the arrangement has been continued on a day-to-day basis, and Dearborn has notified Detroit of its desire to abandon the plan.

Baltimore and Baltimore County Metropolitan Sewer District each treat and dispose of a portion of the others sewage and charges accordingly. The annual charge of $2.25 per connection covers the cost and is based on average sewage flow per capita. Special rates based on water consumption and the number of persons in each building are established for large residential and other establishments. Since Baltimore renders more service than it receives, the total annual charge for sewerage service which the county provides the city is deducted from the total annual charge the city makes to the county and the difference is paid by the county.

County Sewerage System

A sewerage system administered by the county government is preferable in some areas to a metropolitan sewer district because a separate governmental unit is not created. But this plan probably could be used only in counties that are almost entirely urban. Jefferson County, Ala., in which Birmingham is located,has had notable success in the operation of a sewage disposal system. Cities are responsible for collection and the county for disposal. It was set up in 1901 as a sanitary district, but since 1909 it has been under the county engineering department with a sanitary engineer in charge. Individual city sewage disposal systems could have been operated only at a cost which by comparison would have been prohibitive.

Some sewer maintenance districts in Los Angeles County, Calif., are maintained by the county engineer's office. Some of the other counties in California help cities and special districts to plan sewerage systems.

Single Metropolitan Sewer Districts

A single sewer district overlapping all other units of government in the urban area--cities, utility districts, and the county--provides an integrated metropolitan sewer system, but it sidesteps the question of annexation of the fringe area. Another disadvantage is that such a district aims at only one areawide problem, leaving other problems such as fire, police, health, and water completely unsolved. The creation of a special district also tends to postpone a solution of these other urban problems by means of annexation or other methods. Special districts, therefore, add to the confusion of independent governmental units in an urban area and make intelligent popular control of government more difficult.

The metropolitan sewer district may be the only way to solve this problem, however, when annexation laws are highly restrictive and the central city cannot make satisfactory agreements with other governments in the area. Some metropolitan sewer districts are noted for providing good service at reasonable cost and for good administration. These include the districts that serve such large metropolitan areas as Boston, Buffalo, Chicago, Washington, Hartford, Louisville, and Newark. They are governed by independent boards or commissions which control construction, maintenance, and operation of all sewage disposal plants in the area. An individual city may be responsible for the maintenance of sewers within its limits, but all construction plans must be approved by the district governing board. In the older districts the governing board has broad taxing powers which are not subject to control by the local government served.

Another approach to the problem was taken in the East Bay portion of the San Francisco-Oakland, Calif., metropolitan area. There the East Bay Municipal Utility District has been operating since 1929 to provide water supply for nine cities. Upon approval of the voters in 1944, six of these nine cities joined in forming Special District No. 1 to provide sewerage service to Albany, Alameda, Berkeley, Emeryville, Oakland, and Piedmont. Special District No. 1 began operations in 1951 and is administered by the staff of the East Bay Municipal Utility District. The system provides 20 miles of intercepting sewers, the disposal plant, and an outfall line to San Francisco Bay.

An extensive survey of sewerage service in the St. Louis area in 1951 resulted in the conclusion that a metropolitan sewer district offered the only possible method of providing the city and adjoining areas with an integrated sewer system at least cost to the taxpayer. The survey revealed that St. Louis County now has 15 municipal sewerage systems, 21 sewer districts, and 75 individual subdivision sewerage systems. These 111 public units operate 49 sewage treatment plants. It was concluded that the sewer problems of the area cannot be handled separately, because most of the urbanized area of the county drains through the city, and because the present piecemeal system of providing sewers is unduly expensive.

The special independent district method, whether a single metropolitan district or a suburban district, of handling the sewage problem is considered by some specialists as the best solution in general application. The Federation of Sewage and Industrial Wastes Associations believes that the political implications of the special district are fairly well circumvented under the Illinois Sanitary District Act of 1917 which provides for the appointment of the governing board by the county judge.

Suburban Utility Districts

Some states have authorized the creation of water and sewer utility districts which are independent government units and which construct and maintain separate sewer systems including treatment plants. Such districts furnish either water supply or sewer service or both. There were 881 such districts in the United States in 1951,

according to the United States Bureau of the Census. California had the most with 170, followed by Washington with 125, Illinois with 102, Oregon with 79, and Maine with 73. Seven other states each had from 24 to 56 such units, 17 states less than 20 each, and 19 states with none.

In some states as in California, for example, some county sanitation districts jointly construct and maintain trunk sewers and treatment plants. In addition, such districts may contract with any city or other local government in building and operating sewerage systems and disposal plants.

The difficulty with these quasi-municipal sanitary districts is that in most instances, each district provides only a single service. Property owners fear that incorporation or annexation will mean heavier taxes than those levied by a special district.

The creation of a special independent utility district is a step in the direction of political disintegration, although it appeals to some people who live in fringe areas because it lessens their dependency upon the central city. Another possible weakness is that if the utility district does not have control of the water system it is difficult for it to guarantee payment of the sewer service charge.

It is likely also that a suburban utility district may by-pass areas which are expensive to sewer or which would yield a low return in service charges. Likewise, some parts of the urban area may not be covered by a utility district. Finally, if sewer construction and provision of a treatment plant is left to several utility districts in the urban area it would be difficult if not impossible to coordinate this important public service with over-all metropolitan area needs.

Thus the creation of a suburban utility district is not the only or necessarily the best answer to every fringe-area sanitation problem. It should be set up only after a thorough study of the possibilities and future costs of annexation to the central city or the incorporation of a new community. Even where annexation or incorporation studies may reveal higher taxes immediately for property owners, the long-range effect may be greater economy in view of more complete municipal services and greater community benefits. Yet at the same time, there are, and will develop, fringe areas in every urban area with problems that can be solved by sanitary districts.

Conclusion

No one best solution can be applied to the sewerage problems of all urban areas. Usually people living in the fringe areas look to the central city for sewer service. Many fringe areas ask for annexation, some cities have forced annexation of such areas by higher charges or other means, and still other cities in effect are forced to subsidize outside areas. From the long-range point of view annexation of the fringe is desirable. Many cities, however, are practically or entirely hemmed in by incorporated places. Thus the solution will differ from area to area.

Obviously the best solution, but one which is not considered seriously in metropolitan areas because it is difficult to achieve, is the consolidation of all local governments in the area to create one government. The states need to adopt forward-looking laws that will encourage consolidation and make it easier to achieve. Perhaps some standards could be set up which would justify or compel consolidation. If and when this can be done, the hodgepodge of local units in many urban areas can be eliminated and local government can be made more democratic and more responsive to the will of the people. At the same time tremendous waste, duplication, and confusion can be eliminated.

Meanwhile, various types of intermunicipal arrangements are being widely used. Unified treatment of a regionwide need is the goal of such arrangements, including the selling of service, mutual support of an activity, or reciprocal agreements. Contractual or informal cooperation has the advantage of flexibility. It is called functional consolidation as distinguished from geographic consolidation involved in annexation. It calls for cooperation by two or more local units in the provision of sewerage service.

Many states have enabled their local governments to enter into contracts for the cooperative performance of certain functions. Some states have gone so far as to authorize contractual performance of any governmental function common to the contracting units. For example, the state constitution of Georgia and Missouri, ratified in 1945, expressly authorize functional consolidation in broad terms.

A special district is a form of functional consolidation, but it means the creation of another local unit to undertake a special function previously performed by the various units individually. In some metropolitan areas this might be desirable in order to create a unit large enough to provide sewerage service for the entire area. But even in such instances, although involving parts of several counties and a number of cities, it would seem that an ad hoc federation of the counties and municipalities concerned would be a better solution than the creation of an additional governmental unit. Special districts or authorities smaller than existing cities or counties should be avoided.

It is the responsibility of the officials of the several local governments in any urban area, particularly the officials of the central or largest city in the area to take the leadership in ascertaining the best way to handle the sewerage problem. One of the first steps is an areawide plan for the future, implemented by zoning and subdivision controls for all cities in the area. Where such planning exists the sewer lines laid in outlying areas will conform to the requirements of the central city. This is only one of the advantages of a long-range plan which will result in some degree of uniformity in handling the sewerage problem on an areawide basis.

Note: Typical contracts and joint agreements for sewerage service are available on loan to MIS subscribers. A selected bibliography on intermunicipal arrangements for sewerage service also is available upon request.

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